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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/451,665	11/30/1999	SHUNPEI YAMAZAKI	07977/017002	9359

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EXAMINER

SCHILLINGER, LAURA M

ART UNIT PAPER NUMBER

2813

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

87m

<b>Office Action Summary</b>	Application No. 09/451,665	Applicant(s) YAMAZAKI ET AL.	
	Examiner Laura M. Schillinger	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5,7-13,15,16,18-23,25,26,28-34,36,37 and 39-82 is/are pending in the application.
- 4a) Of the above claim(s) 12,13,15,16,18-23,25,26,28-34,36,37 and 39-82 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,2,4,5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/620462.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-2, 4-5, and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Oka et al et al ('563).

In reference to claim 1, Oka et al teaches a method comprising:

forming a crystalline semiconductor film on an insulating surface (Col.17, lines: 40-45 Fig. 5A (502))

forming an insulating film on the semiconductor film (Col.17, lines: 45-55 and Fig. 5B (503));

introducing a dopant through the insulating film by an ion doping (Col.17, lines: 55-60 see also Col.15, lines: 45-55);

annealing the crystalline semiconductor film (Col.17, lines: 60-65);

forming a gate electrode over the insulating film (Col. 18, lines: 1-10 Fig. 5C (505)); and

forming a channel region in the doped region of the crystalline semiconductor film (Fig.6D (between 606A and B))

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wherein a peak of a concentration of the dopant profile is located in the insulating film (Oka teaches that the silicon oxide layer is formed over the crystalline substrate prior to and during ion implantation Col.17, lines: 49-62. Since applicant's specification teaches that doing so produces peak concentration within the SiO(x) layer, it is inferred that Oka's same steps create the same results.)

In reference to claim 2, Oka et al teaches wherein the insulating film is SiO (Col.17, line: 50).

In reference to claim 4, Oka et al teaches wherein the first dopant is B (Col.17, lines: 59-60).

In reference to claim 5 Oka et al teaches wherein the semiconductor film is polycrystalline Si (Col.17, lines: 40-45).

In reference to claim 7, Oka et al teaches wherein B is supplied by diborane gas (Col.17, lines:59-60)

In reference to claim 8, Oka et al teaches wherein the insulating film is removed (Fig.5F (503)-etching for contact holes).

In reference to claims 9 and 10, Oka fails to explicitly teach wherein the semiconductor device as the result of claim 1 is used in as a AMD nor a shift register having TFTs (however, the

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device as formed is automatically rejected with claim 1 and it is inherent that the device structure could be used in a AMD setting or as a shift register).

### ***Response to Arguments***

Applicant's arguments filed 2/16/05 have been fully considered but they are not persuasive. Applicant argues that Oka fails to teach a peak concentration result as claimed and states that such a peak concentration location cannot be inferred because the location of the concentration would be dependent upon the thickness of the oxide and acceleration of the specific dopants. However, such an argument is not persuasive because Applicant's claim should point out the novel step such as the combination of forming an oxide to a specific thickness and accelerating the dopants such that the method produces novel results. However, Applicant's claim limitations do not recite such limitations and the method steps are identical to that of Oka, therefore the results may be inferred.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

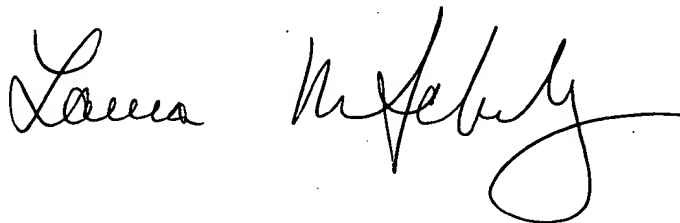
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LMS

05/09/05

Handwritten signatures of Laura M. Schillinger and Carl W. Whitehead, Jr.